STRP
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Strategic Transit
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Programme de recherche
stratégique de
transport en commun

STRP Report 12-2

Transit-Supportive Parking Policies:

North American Experience and Model Policies for Municipalities

a project managed by
un projet dirigé par

cuta actu

Canadian Urban Transit Association
Association canadienne du transport urbain

101-02569/

The Strategic Transit Research Program (STRP) is a National cooperative research program for the Canadian urban transit industry. This program is coordinated and managed by the Canadian Urban Transit Association (CUTA), and has been made possible through the financial support of the following organizations:

Le programme de recherche stratégique de transport en commun (PRSTC) est un programme national et coopératif de recherche pour l'industrie du transport en commun au Canada. La coordination et gestion de ce programme est assurée par l'Association canadienne du transport urbain. Le programme est rendu possible par le soutien financier de organisations suivantes:

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Prepared by:

IBI Group

November 2000

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CUTA is the association of providers of urban transit services, suppliers and related organizations in Canada. Its mission is to promote the role of urban transit in enhancing mobility, and to support its members in the fulfilment of their mandate.

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Printed and bound in Canada

Toronto, 2000

STRP 12-2
ISBN 0-920559-40-9

CUTA REPORT DOCUMENTATION FORM

CUTA Report No.	ISBN No.	Publication Date
STRP 12-2	0-920559-40-9	November 2000

Title and Sub-Title

Transit-Supportive Parking Policies:
North American Experiences and Model Policies for Municipalities

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Supplementary Notes

This report was prepared under CUTA's Strategic Transit Research Program which is co-funded by Transport Canada, the provinces of Quebec and Ontario, and twelve local transit systems.

Abstract

This study explores specific experiences with transit-supportive parking policies (e.g. requirements for new developments, overall parking supply policies, parking pricing policies), and develops model policies that might be used in other municipalities. It is intended to complement an earlier CUTA literature synthesis of North American experiences with transit-supportive parking policies, namely, STRP Report 12-1, *Developing Transit-Supportive Parking Policies: A Synthesis of Key Concepts from the Literature*

The study is based on a series of interviews with officials in cities where significant efforts have been made to reduce automobile commuting and encourage transit use through parking supply and pricing policies. The focus of the interviews was to obtain updates on the policies and measures that have been tried and assess their effectiveness in influencing the modal choice of commuters. The results of the interviews have been summarized, with some of the more notable experiences presented as case studies.

The report develops six parking supply-related policies, and four pricing-related policies, that should have good potential for application in Canadian municipalities. The report also discusses issues related to implementation.

Key Words	Language
Transit Policy and Planning; Parking Policy and Pricing; Travel Demand Management	English. (Ce rapport sera aussi disponible en français)
No. of Pages	Distribution
44	This report is available from CUTA.

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EXECUTIVE SUMMARY

Parking is a major component of urban transportation systems in North American cities, and one that has among the highest influences on modal choice, particularly between automobile use and public transit. Some cities have considered or introduced specific parking policies, usually in the central parts of the city, to address concerns over traffic congestion and air quality related to car emissions, and to encourage transit use as an alternative. Some of these initiatives have been quite successful, while others have not. The intent of this study is to explore experiences with transit-supportive parking policies, and to develop model policies that might be used in other municipalities.

The experiences, case studies and model policies developed in this report are primarily the result of interviews with civic officials in selected Canadian and U. S. cities that have made significant efforts in this area, according to the available literature. The Canadian cities where interviews were conducted are Toronto, Montreal, Vancouver and Ottawa, and U. S. cities included Los Angeles, San Francisco, Seattle and Portland. The interviews focused on getting updated status reports on relevant activities, along with assessments or opinions on how successful the initiatives have been (quantitative evaluations were generally not available), especially in influencing and affecting the modal choice of commuters.

Based on the outcomes of the interviews, along with relevant available literature and research, a series of model policies have been developed that should have good potential for application in Canadian municipalities. The model parking *supply* policies include:

- Reduced or Eliminated Minimum Parking Requirements for New Developments – a basic measure to reduce the rate at which parking supply is increased, in relation to increases in office or other commercial space; this can apply throughout a given area or can vary depending on location or proximity to transit services;

- Maximum Parking Limits for New Developments – a somewhat more aggressive approach, often used where developers have not reacted to reduced minimum requirements, believing that more parking will make their properties more attractive to buyers; maximum limits can either replace a minimum parking requirement or they can combine with minimum requirements to produce an allowable range for developers to work within;

- Flexible (Reduced) Parking Requirements for Trip Reduction Measures –often provided in exchange for developers and/or occupants agreeing to various types of trip reduction measures or programs, which would ultimately reduce the demand for parking (e.g. carpool parking, employer-subsidized transit passes, short-term parking allocation, shared or joint uses);

- Limits on Principal Use Parking Facilities – such as single-use parking garages or surface lots, on the basis that parking is provided as part of other developments, usually commercial, and that single-use parking facilities are incompatible with pedestrian-friendly environments and street-scapes;

- Restrictions on Demolitions and Conversions – not allowing demolitions of buildings and converting the sites to surface parking lots, both to manage parking supply and to avoid

surface lots in general, again, where they are considered incompatible with pedestrian-friendly environments and street-scapes;

- Overall Supply Caps – which are generally used as guidelines or mechanisms for monitoring the success of other parking supply management policies.

The model parking *pricing* policies include:

- Rates in Public Facilities to Discourage Commuter Parking – where rates are set to favour short-term parking and discourage longer-term parking, such as all-day rates or monthly passes, and where commuter rates are priced higher or comparable with transit fares; also, the setting of on-street meter rates and fines so that on-street spaces are not used for all-day commuter parking;

- Regulating Rates in Private Parking Facilities – through mechanisms like by-laws or planning code requirements related to development approvals, which is rare but has been done in at least one city;

- Parking Taxes and Surcharges – potentially very effective measures, albeit controversial, that could have a large effect on the modal choice of commuters; to be effective, a policy needs to apply to all commuter parking, including where it is now free, and needs to ensure that the user will feel the effect of the charge;

- Reducing or Eliminating Free Employee Parking – various measures, typically associated with employer trip reduction or transportation demand management (TDM) programs, with significant potential to impact modal choice, because of free parking being probably the greatest car use incentive.

The policies that should be the easiest to implement, based on past experiences, are those related to managing parking supply, especially the reduced minimum requirements and maximum limits for new developments, but also restrictions on surface lots, principal use facilities, demolitions and conversions. Pricing policies are easiest to implement in public parking facilities, but are much more of a challenge in applying them to private operations or employee parking. Working with employers to set up Transportation Demand Programs for their employees is a good starting point to try to bring about changes to employee commute patterns and lay the groundwork for more ambitious measures.

In conclusion, even though only a small percentage of larger urban jurisdictions in North America have implemented parking policies in any substantial form to discourage auto commuting and encourage transit use, most of those that have done so have realized significant results in changed commuter behaviour.

Most of the policies that have been implemented have affected parking supply, through tighter controls on the provision of parking within new commercial developments. While these have been successful, they have had only a small effect on the overall parking inventory. Over time, the effects of these policies will grow as new developments take place. Restrictions on principal use parking facilities, as well as on demolitions and conversions of building sites to parking lots, have also been successful.

Policies to control parking pricing have been rare, except for the pricing policies of municipal parking facilities. There is much evidence, however, from research and modelling, that pricing policies to

discourage auto commuting, especially those that would eliminate free parking, are potentially very powerful tools that could have a major impact on modal choice. Even though such policies would no doubt be unpopular and politically difficult to implement, they should be strongly considered in any program to aggressively bring about a modal shift from cars to transit. Less ambitious and less controversial approaches to parking pricing are also available and have been implemented successfully, as described in the model policies of this report.

In general, both the experiences of North American cities and other sources of research show that parking policies can have among the greatest impacts on the travel mode choices of commuters. The model policies developed in this document provide a good range of alternative mechanisms that can be used, depending on the level of change desired and the specifics of a given urban area.

1. INTRODUCTION, BACKGROUND AND STUDY OBJECTIVES

Parking is a major component of urban transportation systems in North American cities, and one that has among the highest influences on modal choice, particularly between automobile use and public transit. Numerous studies, including recent work for Canada's National Climate Change Strategy (the Basic Urban Study for the Urban Passenger Sub-table), have determined that availability and, especially, price of parking have greater impacts on auto use than most other factors, including fuel tax and road pricing. Transit is directly related to parking policy, according to the research, in that the reduced auto use resulting from decreased parking supply and increased parking pricing leads to greater transit use.

Historically, the parking policies in most North American cities have been created and designed to ensure that sufficient parking is included in commercial and residential developments to prevent parking shortages or excessive parking demands on city streets. This has been most prevalent in downtown areas and certain other parts of the city where densities have been relatively high and land has been in short supply. It has also been based on the premise that most trips will be automobile trips and that the car has to be accommodated.

In other parts of urban areas, outside of downtown and central areas, parking has been provided in virtually all developments as a matter of course. Most suburban developments have taken place within the last fifty years when the automobile was by far the dominant mode of urban travel, and land was relatively cheap and available. Also, because parking supply has never been an issue outside the older central cities, parking has routinely been provided free of charge to the user in suburban and non-central locations.

In more recent years, some cities have recognized the relationship between parking policy and auto use, and have considered or introduced specific parking policies to address concerns over traffic congestion and air quality related to car emissions, and to encourage transit use as an alternative. Typically, these policies have been oriented to the downtown areas, where parking pricing and other parking policies already exist and comparatively good, downtown-oriented transit services are in place and well used.

A considerable amount of literature exists on the experiences in North American cities with transit-supportive parking policies. This has recently been synthesized under the Strategic Transit Research Program (STRP) of the Canadian Urban Transit Association (CUTA), in it's STRP Report 12-1, *Developing Transit-Supportive Parking Policies: A Synthesis of Key Concepts from the Literature.*

This study is intended to complement the earlier CUTA synthesis. Its objectives are to explore specific experiences with transit-supportive parking policies (e.g. requirements for new developments, overall parking supply policies, parking pricing policies), and to develop model policies that might be used in other municipalities.

2. OVERVIEW OF NORTH AMERICAN EXPERIENCES

The experiences, case studies and model policies developed in this report are primarily the result of interviews with civic officials in selected Canadian and U. S. cities that have made significant efforts in this area, according to the available literature. The cities where interviews were conducted are:

- Canadian Cities:
  - Toronto, Ontario (City Planning Department, Toronto Parking Authority)
  - Montreal, Quebec (City Public Works Department)
  - Vancouver, British Columbia (City Planning and Engineering Departments)
  - Ottawa, Ontario (Region of Ottawa-Carleton Transportation Planning)
- U. S. Cities:
  - Los Angeles, California (City Department of Transportation)
  - San Francisco, California (City Planning Department)
  - Seattle, Washington (City Strategic Planning Office)
  - Portland, Oregon (Bureau of Transportation System Management)

The interviews have focused on getting updated status reports on relevant activities, along with assessments or opinions on how successful the initiatives have been (quantitative evaluations are generally not available), especially in influencing and affecting the modal choice of commuters. Information gained from the interviews has been complemented by existing literature including materials sent by the cities in question and the above-noted CUTA study.

This section provides an overview of experiences from the selected North American cities. Experiences in specific policy areas are summarized and grouped into parking *supply* policies and parking *pricing* policies. More details from individual cities are presented in the next chapter.

2.1 PARKING SUPPLY POLICY EXPERIENCES

In North America, most parking policy initiatives designed to reduce auto commuting have focused on reducing the amount of parking provided by new developments, especially commercial office buildings and other employment centres. This has been done principally in three ways:

- Reducing the minimum parking requirements (e.g. number of spaces to be provided per square foot of office space);
- Introducing maximum limits to the amount of parking that can be provided;
- Offering additional reductions in minimum requirements in exchange for such things as providing designated high-occupancy vehicle (HOV) parking or requiring occupants (e.g. employers) to adopt trip reduction plans or transportation demand management (TDM) programs.

In those cities where these policies have been introduced, they have usually been successful to the extent that new developments are able to affect the overall transportation system. Cities generally have not targeted existing buildings in a more aggressive attempt to reduce overall parking supply.

Some have adopted a "supply cap" or "lid", but these have generally been guidelines and have not forced existing buildings to eliminate parking spaces. Thus, the overall effect of parking supply management has been limited to only a small portion of the overall parking supply, and usually only within downtown or central areas.

Some additional policy measures that have been tried include:

- Limits on principal use parking facilities, that is, not allowing the construction of new parking lots or garages that are not part of a larger development;

- Restrictions on demolitions and conversions, that is, not allowing an existing building to be demolished and turned into a surface parking lot; in fact, some cities have banned new surface lots outright in the downtown area (e.g. San Francisco).

2.2 PARKING PRICING POLICY EXPERIENCES

In general, parking pricing has not been used as a policy instrument to discourage auto use to the extent that parking supply management has been used. A major reason for this is that, in most cities, the majority of public parking is provided by the private sector. Cities have not been willing to impose taxes or harsh regulations on private operators, nor have they been willing to impose charges on parking that has been free to the user.

Where transit-supportive pricing policies have been applied to parking rates, the general direction has been to adopt rates that favour short-term parking and discourage commuter parking, especially in central areas that are well served by transit. The difficulty in doing this is that only a portion of the parking is typically under the control of the municipality, often under the control of a civic parking authority. A few cities (Toronto, Victoria, Chicago, Eugene) have tried increasing commuter rates at publicly controlled facilities, but this resulted mainly in people moving to private lots. For the most part, cities have not extended pricing regulations to private parking lots, although one exception to this is described below as a case study (San Francisco).

Some cities have imposed parking taxes, but these have generally not influenced usage significantly. Either they were not set high enough to have an impact, or they were not passed on to the user to the extent that would change behaviour, or they were only surcharges on existing paid parking and did not affect free parking. Virtually all such cases have been in the United States, since many Canadian cities, notably Toronto, Ottawa and others in Ontario, do not have the legislative authority to impose parking taxes, and the provincial government (Ontario) does not favour granting such authority.

3. SPECIFIC NORTH AMERICAN EXPERIENCES AND CASE STUDIES

This section provides a documentation of North American experiences from the selected cities where interviews were carried out. Section 3.1 provides a city-by-city summary, while some of the more notable experiences are discussed in more depth as case studies of parking supply initiatives (Section 3.2) and parking pricing initiatives (Section 3.3).

As noted below, the most aggressive approaches on parking policies supportive of transit have been in San Francisco, California and Portland, Oregon. Not surprisingly, these are also the only two North American cities that have dismantled downtown freeways.

3.1 SUMMARY OF INITIATIVES BY CITY

Toronto (Canada) has been the only Canadian city to undertake a major review and revision of its parking policies with the express intent of reducing parking supply in its central area. This was done in the late 1970's and featured the introduction of maximum parking supply limits and reduced minimum parking requirements for new developments, along with a requirement for shared parking in multiple use developments. The results have generally been favourable, with little growth in traffic levels in the downtown over the past 20 years, and virtually all employment and commercial growth accommodated by transit.

The only parking tax that was implemented in Toronto was the provincially-imposed Commercial Concentration Tax of the early 1990's, which only lasted a few years; it is discussed in more detail as a case study in the next section.

More recently, in 1997, the former Municipality of Metropolitan Toronto (now the new City of Toronto) explored the possibility of a parking tax or surcharge to reduce auto use and to raise revenue for transit, in the face of losing provincial transit subsidy. A request was sent to the provincial government to give the new City the authority to implement a parking tax or other form of road user fees. The province never acted on the request.

Toronto also has a large Parking Authority operation, which has revised its rate structure in recent years to favour short-term parking over commuter parking. Very recently, it has also taken responsibility for on-street parking and has increased meter rates by up to 100% and fines by 50%. Full case histories on the City and the Parking Authority are presented below.

Montreal (Canada) set a parking supply reduction target in the early 1990's (3000 fewer spaces downtown), but did not enact specific policies to bring it about and, consequently, it was not achieved. Their primary means of managing parking supply has been through a combination of minimum requirements and maximum limits, although these have had the flexibility to vary by proximity to rapid transit stations.

Montreal has a parking authority ("Stationnement Montreal"), but it is a contracted operation owned by the Chamber of Commerce, and has a very small portion of the overall parking market. In theory, the City can influence the policies of the authority, but that does not seem to happen in practice. In general, the political priorities related to parking seem to be oriented more for the economic well being of downtown than for easing traffic congestion or encouraging transit use.

Vancouver (Canada) has had an overall objective of maintaining the current modal split to downtown, but has generally relied on road capacity constraints (no freeways within the central city

and no plans for any) and improved transit, rather than parking limitations, to keep auto commuting from increasing.

There has been, however, a general parking supply target for downtown of about 36-40,000 spaces, or about 1 space for every 4 employees, although this has been used primarily as a guide to monitor the effects of other programs. In the 1970's, the city made a radical policy shift and imposed strict maximums, although these were relaxed in the 1980's due to political pressure and the sense that a less strict policy would still keep them on target. They now have a fairly narrow minimum-maximum window of about 1 space per 100 m^2 of floor space or, again, about 1 parking space for every 4 employees.

The new regional agency TransLink (Greater Vancouver Regional Transportation Authority) is looking at new, more aggressive parking strategies for the Greater Vancouver region in general, both as car use disincentives and revenue sources for transit. The legislation to create the new Authority was passed in 1998 and gave the Authority the power to levy a parking tax on either the taxable parking area or the taxable parking spaces of parking sites in the region. Earlier legislation (the B. C. Transit Amendment Act, 1992) gave similar powers to municipalities and the former Regional Transit Commission but, although a parking levy was proposed and debated (similar to Ontario's Commercial Concentration Tax), neither the Commission nor the City of Vancouver implemented the tax.

Ottawa (Canada) has not adopted many policies in this area, like most Canadian cities of its size. One notable accomplishment, however, was a decision in the 1970's to charge federal government employees for parking. This was done in concert with a major effort by the transit authority, OC Transpo, to expand transit service, provide special service to federal government buildings (especially some major facilities located outside of downtown) and, eventually, build the Transitway facility (buses operating on exclusive right-of-way with full-facility transit stations). The result was a dramatic increase in transit use to a level where the per capita ridership was approaching that of much larger urban areas, like Toronto and Montreal.

Los Angeles (U. S.) has concentrated its efforts, in responding to air quality legislation, on employer-focused transportation demand management (TDM) plans and trip reduction targets. Parking supply and pricing practices have generally been left to employers as a means of meeting their TDM targets. For the most part, this has had fairly minimal results in reducing auto use. There have been some efforts to enact policies to limit downtown parking supply, but most of these have not been implemented because of political opposition.

San Francisco (U. S.) has been one of the most ambitious cities in North America in trying to reduce downtown traffic and encourage transit use for downtown commuting. Perhaps it's most notable achievement has been in implementing a planning code that effectively regulates parking pricing in private parking facilities associated with new downtown commercial (office) developments. The code also controls parking supply and how parking is used (e.g. favouring short-term over long-term and requiring allocations for carpools), and imposes restrictions on such things as surface lots, principal use facilities, demolitions and conversions. The code has generally been considered successful in controlling parking pricing and supply, and has resulted in about 60 percent of downtown commuters using transit during peak hours. More details on the planning code and its effects on parking and transit use are provided in a case study in the next section.

Seattle (U. S.) has put a high emphasis on programs to encourage and facilitate carpools and vanpools. These include preferred parking spaces and rates for carpools in municipal parking facilities (of which there are few) and, most notably, designated spaces on-street. Carpool spaces are also encouraged in private parking facilities, and providing them in new developments will allow some relaxation of the minimum parking requirements. Other factors like proximity to transit and employers providing transit subsidies to employees are also considered as warrants for flexibility in parking requirements.

The parking management program in Seattle, in general, is rather limited, and has focussed mostly on controlling supply in the downtown area, through eliminating minimum requirements and setting maximum parking limits for new developments. In addition to downtown, this has also been applied in a few older, inner-city neighbourhoods with popular shopping and restaurant areas (and good transit service), where there has been a desire to maintain and improve the pedestrian environment.

There is a general preference for centralized garages and shared uses in downtown Seattle, as a means of limiting parking supply. These, however, are typically parts of other developments, as there are also restrictions on principal-use parking facilities, like garages and surface lots in the central areas.

Portland (U. S.) has also been one of the most ambitious cities in North America in trying to reduce traffic in its downtown and encourage transit use for downtown commute trips. The centrepiece of this effort has been its Downtown Parking and Circulation Policy, which has been in place for 25 years. A major element was a radical change to its parking supply policies, including placing a cap, or "lid", on the downtown parking inventory. This was accompanied by a major transit expansion, including light rail transit and a downtown transit mall, along with the demolition of its elevated downtown riverfront freeway. The result has been more than a doubling of transit ridership to downtown and other related benefits. A full case study of Portland's Downtown Parking and Circulation Policy is described in the next section, and its relevant parking policies are presented in Appendix A.

Cleveland (U. S.) has implemented a parking tax, but it is being used to fund a new football stadium rather than transit. The tax was relatively easy to implement because the City Planning Department kept an up-to-date inventory of both public and private parking spaces and their respective turnover rates. The success of the tax also reflected the high public interest in the new stadium and the return of its professional football team.

3.2 PARKING SUPPLY POLICY CASE STUDIES

3.2.1 Portland Parking and Circulation Policy

In the early 1970's Portland Oregon adopted a Downtown Plan which included aggressive goals for transit service expansion, pedestrian amenities, building light rail transit and building a downtown transit mall. It was a revitalization plan for the downtown area aimed at improving air quality (100 violations per year of the carbon monoxide standard were taking place) and increasing employment and residential units in the urban core. In addition, the Plan attempted to put an end to the demolition of older and historic buildings being torn down for parking lots.

In 1975, Portland adopted the Downtown Parking and Circulation Policy, in response to the Downtown Plan and the Federal Clean Air Act. The Policy had several significant elements:

- Maximum parking ratios were introduced. The maximum ratio for office developments in the core area ranges from 0.7 to 1.0 spaces per 1000 ft^2 of net building area, depending on the proximity to the best transit service (the bus mall and light rail line). It is less restrictive in areas outside of downtown and further away from the main transit corridors (2 spaces per 1,000 ft^2);

- Minimum parking ratios were abolished in the core.

- New surface parking lots were prohibited in the core.

- A maximum parking inventory "Lid" was established, setting an absolute maximum limit on the number of total parking spaces allowed in the core. The City maintained a parking inventory and kept track of every space for all the years the Policy was in place, with every new space or parking facility triggering a land use review. The "Lid" was originally set at 40-41,000 spaces in 1975 but grew over the years to about 44,000 spaces in the 1990's, as there were provisions for upward adjustments. These were designed to recognize and accommodate downtown development and activity growth, but only in conjunction with emission offset measures, such as alternative work hours programs, carpool programs or transit subsidies to employees.

In the late 1980's and early 1990's, the City adopted updated plans which expanded the area of the Central City to include emerging districts, such as abandoned rail yards. Those plans are known as the Central City Plan (land use) and the Central City Transportation Management Plan (CCTMP). They expanded maximum parking ratios to the new areas and maintained them in the core area.

At the same time, they also abolished the parking inventory "Lid". It was felt to be obsolete as an air quality tool, and was a disincentive to increasing downtown development. The actual parking supply never threatened to exceed the 44,000-space limit, as Oregon was in a recession during much of the 1980's, although it came close. Thus, enforcement was never really an issue.

Overall, the results have been very favourable. Air quality has improved (zero violations of the CO standard), transit service has doubled, transit ridership has increased 150 percent, over 1000 housing units have been built in the central city and employment has increased. Two light rail transit lines were built, along with the downtown transit mall and free transit in the core, and now a downtown streetcar circulator is under construction.

The favourable results were felt to be very much related to the Downtown Parking and Circulation Policy and, although the Policy covered various aspects of transportation, parking was a major focus and likely had the greatest impact. The portions of the Downtown Parking and Circulation Policy relevant to parking are presented in Appendix A.

3.2.2 Toronto Central Area – Parking Policy Revisions

In the late 1970's, Toronto undertook a process to review and revise parking policies for the central area of the city in order to better manage, and ultimately reduce, the supply of commuter parking and its effect on automobile use for commuter trips to the downtown area.

A comprehensive Central Area Parking and Loading Study was carried out by consultants. It included a wide range of surveys to determine parking needs and their relationship to various types of land use,

but also included a strategic approach to using parking policies to control automobile use in the downtown area and alleviate traffic congestion. Several strategies were evaluated, including:

- Reduced minimum parking requirements for new developments;
- New maximum parking limits for new developments in the Central Area;
- Further reductions in parking supply for multiple or joint uses;
- The abolition of a downtown "Parking Exempt Zone", where the provision of parking was not required of new developments;
- The prohibition of new structures with parking as the principal use;
- The allowance of a "Payment-in-Lieu" provision for new developments, where other parking alternatives were available (e.g. surplus parking in adjacent buildings).

Upon evaluation, the City eventually adopted a set of policy changes made up of the following:

- A reduction in the minimum requirements for new developments in the Central Area, from 1 space per 93 m^2 to 1 space per 300 m^2;
- The introduction of maximum parking limits for new developments in the Central Area, which varied depending on the intended uses of the new buildings and the overall parking supply levels in the area;
- A requirement for the sharing of parking space if a new development was multiple or joint usage.

Although a rigorous evaluation of the effects of these changes has not been carried out, the employment levels in downtown Toronto have increased significantly over the past twenty years, while the level of peak-hour automobile traffic to and from the Central Area has remained pretty much unchanged. Virtually all of the increase in downtown Toronto commuter levels over that time has been accommodated by transit, especially on the GO Transit commuter rail system, as most of the Greater Toronto residential growth has taken place in the suburbs outside of the present day City of Toronto.

3.2.3 Toronto Central Area – Demolitions and Conversions

In a more recent related activity, Toronto has also introduced selective restrictions on building demolitions and conversion to surface parking lots. In the early-to-mid 1990's, the city was in a major recession, especially the downtown area. Commercial vacancy rates soared to the point that several building owners could not sustain their buildings as commercial enterprises. As a result, some converted to residential, but others demolished the buildings and turned the sites into surface parking lots. In addition to the higher revenue potential of a parking lot, the other factor driving this change was property taxes, which were far higher for commercial uses than for parking. The owners simply could not afford the taxes on buildings that had a majority of their units vacant and turning them into parking lots reduced the taxes and increased revenues.

In the late 1990's, after the recession was over, the City established experimental development policies for two areas on the fringe of downtown, the area around King and Spadina Streets to the west and the area around King and Parliament Streets to the east. These were relatively run-down areas, which had suffered from the recession, but which had re-development potential. The policies were designed to remove many of the zoning and development restrictions to encourage new and innovative development, but development that was consistent with compact inner-city land use and mixed uses favoured in the City's "Main Streets" policy. This was a policy designed to keep new developments on inner-city main streets consistent with the historical patterns of medium density, street-front orientation and mixed uses of commercial and residential.

One of the new policies was to prohibit demolitions and conversions to surface parking, and to discourage surface parking in total, with greater reliance on public transit. Although no detailed evaluation of these policies has been made, the areas have experienced a high level of re-development, compared with other parts of the central city, with significant improvements to the ambience and attractiveness of the streets in the areas, and without any significant increases in parking supply. The areas are well served by transit, especially in the King and Spadina area, where a new light rail line (streetcar primarily on its own centre-median right-of-way on Spadina Avenue) was introduced about the same time.

3.3 PARKING PRICING POLICY CASE STUDIES

3.3.1 San Francisco Use of Planning Code to Manage Parking Pricing

San Francisco, in recent years, has had perhaps the strongest "pro-transit" policies and practices of any city in the United States, especially in their relatively large and dense downtown area. Their "Transit First Policy" was adopted in 1973, following the start-up of the Bay Area Rapid Transit system (BART), and a rejection by citizens and politicians of an elaborate freeway construction plan that had been proposed to deal with growing traffic congestion. The "Transit First Policy" gave top priority to public transit investments and led to the adoption of street capacity and parking policies designed to discourage increases in automobile traffic.

Specific parking policies designed to encourage transit use have been incorporated into the transportation component of the City's General Plan. Many of these are designed to control parking supply, especially that which is associated with new developments, not unlike the kind of policies used in other cities. They include how parking is used (e.g. favouring short-term over long-term and accommodating carpools), and the discouragement of surface lots, principal use facilities, demolitions and conversions.

The Plan, however, also included specific policies on parking pricing, particularly the setting of rates to discourage commuting, favour short-term use and encourage higher turnover and more efficient use of the parking supply. The specific requirement is that the charge for 4 hours of parking must be no *more* than 4 times the charge for the first hour, and that the charge for 8 or more hours of parking rate must be no *less* than 10 times the charge for the first-hour. In many instances, this has resulted in short-term rates increasing with the number of hours parked, once the first 4-hour threshold is passed, in order for the longer-term rates to meet the long term requirement (10 times the first hour rate), which has also helped to discourage long-stay parking.

Most notable, however, is that the City has not only applied the policies to their own public parking facilities, but has also used its Planning Code to effectively apply them to the prices charged in private

parking facilities. The Code provisions have been designed in a way that requires new downtown commercial (office) developments to adopt the pricing policies as a condition of their development approval. This Code provision has been in place since 1985, so even though it has only applied to new developments, these have come, over 15 years, to comprise a significant portion of the total downtown parking supply.

The code has generally been considered successful in controlling parking pricing and supply, and has resulted in about 60 percent of downtown commuters using transit during peak hours.

3.3.2 Ontario Commercial Concentration Tax (Parking Tax in Greater Toronto)

Perhaps the most significant initiative to implement a parking tax in Canada took place in the early 1990's in Ontario and affected all municipalities in the Greater Toronto Area (GTA). The Commercial Concentration Tax (CCT) was created by the provincial government as a primary means to fund a 5-year $2 billion Transportation Capital Program for both transit and road projects. The rationale was that those that would benefit from the improvements, transportation users, should fund the program. Both the tax and the capital program were carried out at the provincial level of government.

The CCT was an annual levy of $10.75 per m^2 ($1.00 per ft^2) on all commercial properties (office, retail, etc.) exceeding 18,600 m^2 (200,000 ft^2) and all commercial parking lots, that is, lots where fees were charged for parking. Parking lots, both public and private, where parking was free to the user, were not affected. These included free parking at shopping malls and other retail outlets and free parking provided by employers at work sites, which constituted the vast majority of parking outside of the central city of Toronto.

When it was introduced, and during the entire time it was in effect, the CCT generated much criticism and opposition for many reasons. Because it was levied only in the Greater Toronto Area, it was viewed as biased against the Toronto region because some of the proceeds were going to be used to fund projects in other parts of the province. Because it only applied to commercial paid parking, it was perceived as anti-Toronto, since most of the paid parking was in the central city.

Ironically, some of the highest impacts were felt outside of Toronto, in those few areas where there was paid parking, because parking rates were relatively low and the CCT taxation levels did not differ according to rate or location. As a result municipal lots in suburbs like Whitby and Newmarket abolished their parking fees so they would not have to pay the tax. Also ironically, one of the organizations that felt the highest impact was the Toronto Transit Commission, mostly because of its park-and-ride lots. The TTC, too, eliminated the parking charges on its lots until the tax was repealed. Because of the unabated and intense opposition, the CCT was finally abolished, only three years after it was introduced.

Ultimately, the main reason that the Commercial Concentration Tax failed (even though it generated over $100 million per year) was that it only applied to commercial paid parking. This was responsible for most of the criticisms regarding its lack of fairness, as it applied to parking.

This factor also explains why the measure had virtually no effect as an auto use disincentive (transit ridership declined while it was in place, although overall travel did likewise, because of the recession). As a tax on top of an existing parking charge, its prime impact was on the central city, where transit use was already high, and those who drove and parked typically did so for reasons that would not be

affected by only a slight increase in cost. The majority of GTA drivers, on the other hand, continued to park for free. Had they suddenly faced a charge for parking, the impact in terms of reduced auto use would likely have been considerable.

3.3.3 Toronto Parking Authority Rate Policy

The Toronto Parking Authority is a wholly owned company of the City of Toronto, but one that operates "at arm's length" from the rest of the City. Its historical mandate has been to build and operate off-street parking facilities, both garages and surface lots, in areas where the private sector has not provided general public parking, especially on commercial "main streets" outside of the downtown core. In the last couple of years, the Authority has also been given the responsibility for the operation and setting of rates for on-street parking. This came about as part of the recent amalgamation of the former City of Toronto with its five neighbouring municipalities within the former Municipality of Metropolitan Toronto.

Over the years, the Authority has followed a general policy objective to set its parking rates to favour short-term parking over long-term parking, but it also felt it had to compete with the rates of private operators, which generally tended to do the opposite. In the last few years, the Authority has reviewed and fine-tuned its policies to return closer to its original objectives. Specific policies include:

- Day maximum rates to be set at 6 to 8 times the half-hourly rate (private operators tended to price their daily rates at, typically 3 to 5 times the half-hourly rate, resulting in painfully high short-term rates, as high as $10 per hour, and relatively cheap rates for commuters, including "early-bird specials");

- Monthly permit rates to be set at 15 to 20 times the day maximum rate (again, the monthly rates of private operators tended to be somewhat lower).

The results of these policies have been to move commuter rates significantly higher, while keeping rates for shoppers, other customers and visitors fairly reasonable, especially in recognition of the need for the central city to compete with free parking in suburban malls and business parks. The changes have also had some impact on the commuter rates of private operators, although the current economic prosperity of downtown Toronto has contributed to this as well. An additional benefit is that the Authority has increased revenues considerably, again for various reasons, but not the least of which is the higher turnover resulting from relatively attractive short-term rates.

More recently, the Toronto Parking Authority has also taken on responsibility for on-street parking, particularly the setting of rates and the on-street operations. One of its earliest actions was to implement major increases in both on-street rates and fines.

The rates were doubled in most areas, from $1.00 to $2.00 per hour in the downtown and from 50 cents to $1.00 or $1.50 per hour in other areas. For the most part, the new rates are still not as high as the rates for the Authority's off-street lots nearby, but they are now fairly close in many areas. There had been efforts to raise meter rates in the past but it was then under the City's direct control and was not done due to public opposition and a lack of political will.

The fines were increased from $10 to $15, although the Authority wanted a $20 fine but could not get support from City Council. The $15 fine was an improvement but it was still less than the daily

parking rates charged by many parking operators, including the Authority's own garages, in the downtown core. Thus, for many, the fine was nothing more than a daily charge for parking.

The effects of the changes, along with the introduction of pay-and-display technology in the central area, have seen a marked increase in the availability of on-street parking and a reduction in all-day parking on-street, both by meter-feeding and the acceptance of fines as de facto commuter parking charges.

4. PROPOSED MODEL POLICIES

In this section, model transit-supportive parking policies are proposed that should have good potential for application in a Canadian municipal environment. They are based on the best experiences from cities in North America, according to the available literature and the interviews that were conducted with civic officials as part of this study. They are grouped into parking supply policies and parking pricing policies. An example of a policy document that can provide some suggestions for model policy wordings is Portland's Downtown Parking and Circulation Policy, which is presented in part in Appendix A.

4.1 PARKING SUPPLY POLICIES

In North American cities where they have been tried, policies to manage or control the supply of parking have generally focused on controlling additions to the parking inventory, rather than trying to reduce existing parking supply. While this approach may not greatly affect the overall parking supply within a short period of time, it is at least able to reduce the rate at which parking supply is increased in relation to the new development that takes place.

Most often, these policies have been related to the provision of parking to support new developments, especially office and other commercial developments in downtown or central areas. Policies have also been used to restrict additions of both surface parking lots and principal use parking facilities, like garages, as well as demolitions of buildings and their conversions to parking lots.

Virtually no policy measures have been taken in North American cities to take away existing parking. Even in the limited cases where parking supply caps have been established, these tend to be guidelines for monitoring and evaluating the success of other parking policies, especially as new developments are built.

Model policies to restrict or reduce parking supply, based on North American experiences, are proposed in the following sections.

4.1.1 Reduced Minimum Parking Requirements for New Developments

A basic measure to reduce the rate at which parking supply is increased, in relation to increases in office or other commercial space, is to lower or eliminate the minimum parking requirements for new developments. Recognizing that minimum requirements are generally used to avoid parking shortfalls or spillover onto streets, a move to reduce these requirements assumes that a given number of trips can be accommodated by other means, such as:

- transit,
- carpool or vanpool,
- other parking in the vicinity, especially public parking,
- shared parking, where peak demands for different users are at different times.

There are several types of model policies that can be used to reduce or eliminate minimum parking requirements for new developments, depending on the extent to which a modal shift is desired. Examples include:

- Reducing minimum requirements overall –Toronto reduced theirs from 1 space per 93 m^2 to 1 space per 300 m^2 in the central area (1 space per 93 m^2 or 1000 ft^2 has traditionally been a common minimum requirement in central areas);

- Eliminating minimum requirements – typically, this is only done in downtown or central areas (e.g. San Francisco, Portland) and assumes a higher level of transit use and/or a significant amount of available parking supply nearby; its effectiveness, however, usually depends on how developers react and whether or not the lack of a minimum requirement is accompanied with a maximum ceiling for new developments (see below);

- Setting different minimum requirement levels for different parts of the city – typically, lower requirements in downtown or central areas which are well served by transit, which can be defined by zones, similar to Portland's approach for varying maximum limits (see next sub-section below);

- Tailoring minimum requirements according to proximity to transit services – typically, lower requirements for developments close to higher-order transit services, such as subway, light rail or bus-rapid-transit (e.g. Montreal and Ottawa, although these are done more ad hoc, on a project-by-project basis).

4.1.2 Maximum Parking Limits for New Developments

Maximum limits for new developments are usually part of a more aggressive approach to reduce auto use and encourage a modal shift to transit. Where they have been implemented, usually in downtown or central areas, it has often been because developers have tended to not react to reduced minimum requirements, believing that more parking will make their properties more attractive to buyers.

As noted above for minimum parking requirements, model policies for maximum parking limits can take several forms, depending on the degree to which a city wishes to discourage auto commuting and encourage transit use. Examples include:

- Establishing a maximum parking ratio in combination with minimum requirements, resulting in an allowable range for developers to work within; one approach is to keep the range narrow or have maximums similar to minimums, with variances able to be considered on a project by project basis (e.g. Toronto and Vancouver);

- Replacing a minimum parking requirement with a maximum parking limit where a more aggressive approach for a modal shift is desired (e.g. Portland and San Francisco central core areas, with a limit of 0.7 spaces per 1000 ft^2 in the Portland core area);

- Setting different maximum limits in different parts of the city – in Portland, the ratio varies by downtown zone, ranging from 0.7 spaces per 1000 ft^2 in the central core, adjacent to the LRT transit mall, to 1.0 spaces per 1000 ft^2 in the zones closest to the edge of the downtown area;

- Tailoring maximum limits to proximity to transit services – often, maximum limits are only set for developments that are close to higher-order transit services like rail transit or buses operating on an exclusive right-of-way (e.g. Montreal and Ottawa, although these are done more ad hoc, on a project-by-project basis).

4.1.3 Flexible (Reduced) Parking Requirements for Trip Reduction Measures

In addition to geographic variances for parking requirements, cities often allow flexibility in the requirements in exchange for developers and/or occupants agreeing to various types of trip reduction measures or programs, which would ultimately reduce the demand for parking. As noted above, however, exemptions to parking requirements may not be as effective as setting maximum supply limits, in that some developers may not want to reduce parking supply. Model policies for flexible parking requirements include:

- Allocating a portion of the parking for carpools or vanpools – Portland requires 15% of all spaces to be designated as preferential parking for high occupancy vehicles (HOV's); others, like Seattle, will consider a reduction in the parking requirement for dedicating spaces for carpools as part of the project approval process.

- Allocating a portion of the parking for short-term uses, such as for customers or visitors – Portland requires 20% of all spaces to be designated as short-term; San Francisco only allows exemptions to maximum parking supply limits for short-term spaces.

- Shared or joint uses of parking for dissimilar purposes (e.g. offices during the day, entertainment during evenings, residential overnight) – These aim to reduce overall parking requirements, but focus on more of a micro-level matching of supply with demand. Even though they are not as aggressive as some other strategies in reducing supply below demand levels to induce greater transit use, they still have the effect of reducing overall parking supply as well as encouraging more compact land use. Transit use can be positively affected simply as a result of a reduction in the amount of excess parking supply that would otherwise exist.

4.1.4 Limits on Principal Use Parking Facilities

A model policy for this type of limitation would be an outright prohibition of new principal-use parking facilities, such as garages or surface parking lots. The rationale for such a policy is that parking is provided as part of other developments, usually commercial, and that single-use parking structures are incompatible with pedestrian-friendly environments and street-scapes. Portland and San Francisco have prohibited new principal-use parking facilities in their core areas.

A variation to this policy would be to allow exemptions when there is a serious parking shortfall in a given area, without foreseeable development potentials that might otherwise ease the shortage.

4.1.5 Restrictions on Demolitions and Conversions

A model policy for this type of restriction would be to not allow demolition permits to be issued for buildings without approved re-development plans, so that they cannot be converted into surface parking lots. The rationale is usually not only to control parking supply but also to avoid surface lots

in general, again, where they are considered incompatible with pedestrian-friendly environments and street-scapes.

These types of restrictions are in place in San Francisco and, as noted above, have recently been implemented in the King-Spadina and King-Parliament areas on the periphery of downtown Toronto. Portland generally discourages surface lots of any kind in their downtown area.

If an outright prohibition is not desirable, an alternative policy approach would be to set property tax rates on parking lots high enough in relation to other uses, so that there is not a strong tax-related financial incentive for demolition and conversion, when building vacancy rates are high.

4.1.6 Overall Supply Caps

The general experience with supply caps has been that, where imposed, they tend to be more of a guideline than a policy, in order to help monitor and manage the effectiveness of the specific policies in place to restrict supply. This was the case in Portland, where the cap had to be regularly adjusted to reflect new activity. Ultimately, it was eliminated because, as a policy, it was seen to inhibit growth in the downtown, while other policies could more effectively manage parking supply in concert with growth patterns.

A cap on its own would not be effective without policies to actually control the activities that add to, or otherwise affect, parking supply. Thus, a cap in itself is not recommended as a parking supply policy.

4.2 PARKING PRICING POLICIES

Even though parking pricing policies have not been used as much as parking supply policies in North American cities to influence modal choice, there is considerable research to suggest that pricing can potentially have among the greatest impacts in affecting commuter behaviour.

Pricing policies have been most prevalent on public parking facilities that are under the control of the municipality, either directly or through a municipal parking authority, even though these affect only a portion of the parking market. Policies which impose charges or regulations on private parking have not been widely undertaken, but have had a significant impact where they have been used.

Model policies to price parking to discourage auto commuting and encourage transit use, based on North American experiences, are proposed in the following sections.

4.2.1 Rates in Public Facilities to Discourage Commuter Parking

The most common approach in public facilities to discourage all-day commuter parking is to adopt a rate structure where short-term parking is favourably priced compared to long-term parking. This should be done carefully, however, as public parking facilities still have to be competitive with private lots. Price differences between the two can have a considerable effect over how the public will react to pricing changes at a public facility.

A model policy, based on the Toronto experience, would be to set prices according to the following:

- day maximums to be no less than 4 times the hourly rate (note that this level is relatively modest and a higher level of 5 or 6 times the hourly rate, or more, may be achievable – for example, San Francisco sets day rates at 10 times the hourly rate),

- monthly pass prices to be no less than 15 times the daily maximum.

A more aggressive policy might be considered but, again, the prices of private operators should be taken into account, if a city is not willing to regulate prices in the private market place. In Toronto, private operators set daily rates as low as 2 times the hourly rate, which limits what the public authority is able to do. Even its relatively modest policy of favouring short-term parking has resulted in short-term prices for public lots in Toronto being as low as half the rate of private competitors, with long-term rates being similar or slightly above private lots.

The prices themselves should also be high enough to recognize the value of the parking space and to allow transit to be competitive. One approach, especially in smaller cities or secondary centres in larger urban areas where parking is usually quite cheap, would be to price daily and monthly parking as follows:

- day maximums to be no less than 2 times the single ride transit fare,

- monthly parking pass prices to be no less than the cost of a monthly transit pass.

Pricing policies for on-street parking should be consistent with their role as short duration, high turnover, premium parking spaces, and should be designed to strongly discourage all-day parking. On-street rates should be comparable with, or higher than, short-term off-street rates, and high enough to discourage all-day meter feeding. Also, fines should be high enough to ensure that a ticket for parking illegally on-street is not a surrogate for a high all-day parking fee.

An additional policy, to complementary general pricing policies, would be to give preferential rates to high occupancy vehicles, such as carpools or vanpools, as is being done in Portland and Seattle. Even though high occupancy vehicles are the chief beneficiaries of such a policy, it should result in higher rates for other commuters, which should help make transit more attractive.

4.2.2 Regulating Rates in Private Parking Facilities

The model policy rate multipliers for longer-stay parking that favour short-term use, as mentioned above for public-controlled parking facilities, can also in theory be applied to private facilities. This, however, has rarely been done in North America, primarily because of a political unwillingness to intervene in the private market place, with the notable exception of San Francisco, as described earlier in the case study.

The San Francisco approach has been to use its Planning Code to require that its pricing policies are adopted in new developments as a condition of their development approval. Because this would only apply to new developments, the effects of this approach would initially be very small but would grow over time, especially in times of high growth and increasing economic activity. In the case of San Francisco, this provision has been in place for over 15 years, and now affects a significant portion of the total downtown parking supply, to the extent that traffic congestion has been kept under control and transit use has expanded considerably.

4.2.3 Parking Taxes and Surcharges

Even though they have not been used to any great extent in North American cities, a considerable body of research suggests that parking taxes or surcharges can be very effective measures to reduce auto commuting and increase the attractiveness of transit.

There are various ways that taxes or surcharges can be applied, and these differences can greatly affect how much they influence modal choice behaviour. To be truly transit-supportive, a model parking tax or surcharge policy should incorporate the following:

- It should be as widespread as possible, preferably throughout a metropolitan or urban area, so that it does not impose the kind of economic impact on the areas affected that could result in relocations by employers and commercial interests (e.g. moves from downtown to suburban commercial parks).

- It should be specifically targeted at employers who provide free parking, and not just a surcharge on those that are already paying. Otherwise, the discrepancy between the two worsens and employers have greater incentives to provide free parking to their employees (as was the case with the Commercial Concentration Tax in Toronto).

- It should be applied only to long-term commuter parking rather than short-term parking, so that it does not adversely impact retail and other commercial activity. In the case of commercial parking, this may have the desirable effect of influencing rates to favour short-term parking as is typically done by public parking authorities.

- It should be imposed directly on the user, rather than on the parking provider or employer who would have the option of absorbing it through various means, including those that could nullify its effect on user behaviour (e.g. increasing short-term rates, in the case of a commercial parking operator).

Methods to achieve the above, particularly the latter points, may have to include some form of by-law, similar to San Francisco's use of its Planning Code, especially in the case of regulating the application of a tax to commercial parking charges. In the case of employer-provided parking, this may be more difficult and it might be easier to opt instead for a mandatory parking "cash out" as an alternative means to level the playing field between those who take advantage of the parking and those who use other modes.

4.2.4 Reducing or Eliminating Free Employee Parking

Providing free parking for employees has been shown in research to be probably the greatest single factor behind the high proportion of single-occupant vehicle commuting in North American cities. Any policy that reduces or eliminates free parking will have a huge impact in boosting transit use, but will also be considered highly intrusive and very unpopular with those affected, no matter how good the transit alternative is.

Most North American experiences in this area have been in the form of employer-based transportation demand management (TDM) programs, typically U. S. ordinances requiring employers to adopt TDM plans and trip reduction targets. By their nature, they have been sufficiently generic to allow

employers and employees various alternative approaches to reach their targets, including supporting carpools, subsidizing transit passes and providing "cash-out" benefits to those who do not use parking.

Model policies that could be considered within this category include:

- Requiring employers (perhaps larger employers only) to adopt trip reduction targets and TDM plans to achieve them, which could include transit authorities working with employers to provide transit information and facilitate pass sales, perhaps through employer subsidy, payroll deduction or a combination of both;

- Levying a parking tax on free employer-provided parking (as noted above, this would have to be designed carefully to ensure that it affects the user sufficiently to influence modal choice);

- Making employee "cash-out" mandatory for those employees who do not use parking spaces;

- Government setting the example by eliminating free parking for its own employees, especially those located close to good transit service, such as was done with federal government employees in Ottawa in the 1970's.

It is worth noting that the income tax system in Canada currently works against these kinds of strategies, in that any provision of employer-provided transit benefits is taxable to the employee. The general provision of free parking, on the other hand, is taxable in theory but is generally not taxed in practice due to difficulties in quantifying the benefits and the lack of political will to enforce it. This is not the case in the United States. The study on Tax-exempt Transit Benefits, done for the Urban Passenger Sub-Table of the National Climate Change Initiative has shown that a change in Canadian tax law would be a major incentive to employers and employees to take on employer-based programs to promote and facilitate greater transit use.

4.3 IMPLEMENTATION STRATEGIES

The potential for implementing the above model policies will vary, depending on such things as level of growth activity, traffic congestion, other transportation or environmental concerns and political will. The following provides some general guidance for setting priorities and taking advantage of opportunities for implementing transit-supportive parking policies.

The most widely used approach is the setting or amending of minimum and/or maximum (with flexibility provisions) parking supply criteria for new developments. Even though these only affect new developments, their influence increases over time, especially during times of growth. Their use is also not restricted to the central parts of a city and can be quite effective, for example, in non-downtown commercial centres, especially where densities are reasonably high and an attractive pedestrian environment and good transit use are desired.

Other parking supply policies that should be relatively easy to implement include by-laws to prohibit or restrict surface lots, principal use facilities, demolitions and conversions. These would be easier to implement, however, when economic activity is above average and there are not financial pressures for demolishing old buildings and converting them to parking lots. The incentive to do so can also be reduced by ensuring that property tax rates do not overly favour surface lots.

The easiest way to implement transit-supportive pricing policies, is through a public parking authority or equivalent city-controlled organization, and building it up to where it makes up a significant portion of the city parking inventory. In Toronto, the Parking Authority was created because the private sector was not interested in catering to short-term parking or to parking needs in less lucrative areas outside of the downtown. Ironically, the authority in Toronto has become very financially successful, primarily because of its emphasis on short-term parking and the positive impacts on revenue that have resulted from a high level of parking turnover. As a public authority grows, its impact on the overall parking market does likewise and its policies can have a greater influence on how private lots set their rates.

Levying parking taxes, parking charges to employees or directly regulating the pricing policies of private parking can potentially have a major impact on travel choices, but will be more difficult to implement than most other measures in this report. They should be considered preferably after other policies have been established, and at a point where a more aggressive approach to reducing traffic and enhancing transit use is desired.

An early strategy with respect to employee parking should be getting transit or city officials to work with employers and employer groups to set up Transportation Demand Management programs and Transportation Management Associations. These can be tailored to put the initial focus on offering better employee commute choices, with the more challenging measures like parking pricing and "cash out" programs being considered after the programs are well established.

5. CONCLUSIONS

Even though only a small percentage of larger urban jurisdictions in North America have implemented parking policies in any substantial form to discourage auto commuting and encourage transit use, most of those that have done so have realized significant results in changed commuter behaviour.

Most of the policies that have been implemented have affected parking supply, through tighter controls on the provision of parking within new commercial developments. While these have been successful, they have had only a small effect on the overall parking inventory. Over time, the effects of these policies will grow as new developments take place. Restrictions on principal use parking facilities as well as demolitions and conversions of building sites to parking lots have also been successful.

Policies to control parking pricing have been rare, except for the pricing policies of municipal parking facilities. There is much evidence, however, from research and modelling, that pricing policies to discourage auto commuting, especially those that would eliminate free parking, are potentially very powerful tools that could have a major impact on modal choice. Even though such policies would no doubt be unpopular and politically difficult to implement, they should be strongly considered in any program to aggressively bring about a modal shift from cars to transit. Less ambitious and less controversial approaches to parking pricing are also available and have been implemented successfully, as described in the model policies of this report.

In general, both the experiences of North American cities and other sources of research show that parking policies can have among the greatest impacts on the travel mode choices of commuters. The model policies developed in this document provide a good range of alternative mechanisms that can be used, depending on the level of change desired and the specifics of a given urban area.

APPENDIX A – PORTLAND'S DOWNTOWN PARKING AND CIRCULATION POLICY

The following are excerpts relevant to parking supply and pricing policies, from Portland's 1985 Updated Downtown Parking and Circulation Policy, as adopted by the Portland City Council February 26, 1986.

Introduction

The Downtown Parking and Circulation Policy was adopted in 1975 in response to the Downtown Plan and the Federal Clean Air Act. In adopting the Policy, the City included a requirement for periodic updates in order to keep the Policy responsive to changing circumstances. This is the second of those periodic updates. This revision, unlike the previous one, is not intended to remain in effect for a set period of time. Rather, it is an Interim Policy designed for a short period of time while additional revisions are examined and evaluated.

In the ten years since the Policy was first adopted the Downtown has seen a significant improvement in air quality. The number of carbon monoxide violations has decreased from over 50 in 1975 to 19 in 1979 and down to 3 in 1983. The rate of improvement has slowed but appears to be sufficient to meet the Federal Standards by the 1987 deadline.

The period from 1975 to 1985 has also seen a dramatic increase in downtown employment from 69,800 jobs to over 80,000. This increase in downtown workers has not, however, been accompanied by any significant increase in auto traffic. Instead, most of the new commuter trips have been served by transit, with daily downtown bus ridership increasing from 79,000 to 128,000 one way trips.

During that ten year period the number of parking spaces has decreased slightly, from 38,700 to 37,653 (not including hotel and residential parking spaces which are exempt from the Policy's inventory limit) and there have been significant changes in the types of spaces. Curb spaces have decreased by 21%, and surface lot spaces have decreased by 26%, while spaces in garages have increased by 27%. While the number of parking spaces in operation has decreased, the number of spaces approved for future developments has risen rapidly and now approaches the maximum inventory allowed under the 1980 Policy.

During the 1985 update process significant questions were raised about the underlying assumptions of the Parking Policy. The limit on parking spaces was challenged as a deterrent to achieving the level of development called for in the Downtown Plan. With the remaining inventory at fewer than 100 spaces it seemed likely that the City would soon have to reject developments due to a lack of parking spaces. Existing buildings, which depend on surface parking lots, were beginning to be threatened by the redevelopment of those sites. Questions were raised about the appropriate number of long term parking spaces, while a need for additional short term parking was felt in a number of areas. In addition questions were raised about the ability of Tri-Met to serve future downtown growth.

These and other questions seemed to call for a major revision in the Policy, and the Committee with the aid of a consultant study initially looked in that direction. Further analysis of these issues indicated that immediate changes were not necessary, and a number of other factors mitigated against making major changes at this time.

The foremost factor was the construction of the Light Rail project and the changes in traffic patterns it will cause. Although this update attempted to anticipate the changes in traffic circulation, the pattern that emerges is likely to differ from the forecast, perhaps in significant ways. Since the air quality analysis depends upon specific traffic volumes and speeds, the present analysis could be significantly out of date in a very short period of time. The Committee concluded that the traffic forecast had too many uncertainties to serve as a basis for making major changes in the Policy.

The second factor is the rapid approach of the 1987 Clean Air Act deadline. Analysis indicates that the present policy will allow us to meet the Federal Standard but without much room to spare. Since the margin of error is so small, any significant changes in the Policy can only take place after in depth analysis and a demonstration that the new Policy elements actually work in practice.

Another important factor, previously mentioned, is the level of transit service that can be delivered in the future to serve Downtown growth. While the Technical Advisory Committee concluded that the addition of Light Rail will absorb downtown employment growth for at least the short term, Tri-Met's ability to meet Downtown's travel growth beyond the short range must await the securing of an adequate funding base.

In addition, a need was seen for gathering additional and better data about parking use patterns. As Downtown grows we are getting closer to the limits of the downtown circulation system and the downtown air shed. This produces a need to fine-tune the transportation system to ensure that its capacity is as great as possible. Getting the maximum benefit from our transportation system requires a much deeper understanding of the way the system operates. It is no longer sufficient to know the number of parking spaces in a given area. We must also know how the parking spaces function - what is their occupancy rate, are they used for short or long term parking, and what percentage of the patrons enter or leave a given lot at any given time.

After discussing these questions, the Citizens Advisory Committee decided to recommend a two phase approach to revising the Parking Policy: to adopt a short range Policy which will remain in effect for a limited period of time, and to begin the work necessary to do an in-depth longer range update of the Policy as soon as possible. The Committee further decided that as long as the Policy was modified enough so that it would not impede desired developments, most changes could be deferred until the long range update.

The 1985 revised Policy must therefore be viewed as an interim and temporary solution to downtown parking. Its approach is to make the maximum use of the existing parking resource, rather than to allow an increase in that resource. It is sufficiently flexible to meet the needs of downtown for the next two to four years. It is not, however, sufficiently flexible to allow the City to wait before beginning work on other approaches to transportation, parking and air quality. That work must begin immediately if new approaches are to be ready for implementation before the interim Policy loses its effectiveness.

Section 1-1

Purpose

The Downtown Parking and Circulation Policy serves as the transportation element of the Downtown Plan. It is designed to provide a balanced transportation system, which will allow for growth

consistent with the Downtown Plan's development goals while at the same time ensuring that the downtown remains a comfortable pedestrian environment.

The Downtown Parking and Circulation Policy also serves as the City's plan for ensuring compliance with the Carbon Monoxide standards of the Federal Clean Air Act. As such it is based on a technical analysis of vehicle emissions and traffic volumes on downtown streets. The Policy, after adoption by Council, is forwarded to the Oregon Department of Environmental Quality for review and acceptance as a part of the State Implementation Plan for Carbon Monoxide.

This document also contains the City of Portland's regulations for the assignment and use of off-street parking in the Downtown area. Sections 1-3, 1-4, 2-1, 2-4, 2-5, 2-6, 2-7, and 3-6 have been incorporated by reference into Title 33 of the City Code and are the regulations controlling the approval of off-street parking under the City's land use review process. Regulations found elsewhere in the City Code control the actual design and construction of those spaces.

Section 1-2

Objectives

The Downtown Parking and Circulation Policy is based on the following objectives:

A. Develop adequate and efficient parking, which supports the goals and guidelines of the Downtown Plan.

B. Reduce the need for parking, especially long term parking serving low occupancy commuter trips, while maintaining adequate parking opportunities necessary to support downtown housing, retail, office, hotel, recreational, educational, and cultural activities.

C. Provide parking and transportation elements which respond to the special needs of districts within downtown.

D. Encourage identifiable concentrations of short-term parking, especially in the retail core.

E. Encourage the improvement of public transit service and the increase in transit ridership.

F. Encourage trips to and within downtown made in shared vehicles, on bicycles, and by walking.

G. Reduce through and circling traffic on downtown streets, and minimize traffic congestion.

H. Reduce reliance on automobile travel to and within downtown, especially during the peak hours.

I. Reduce conflicts between transit, pedestrians, bicycles, and automobile traffic.

J. Meet Federal and State air quality standards

Section 1-3

Definitions

For the purposes of this policy, the following definitions apply:

A. Private Use Parking Spaces: Private use parking spaces are for the exclusive use of designated persons or vehicles.

B. Public Use Parking Spaces: Public use parking spaces are spaces in which any visitor to downtown may park, regardless of specific destination or trip purpose.

C. Long-Term Parking: Parking having a duration exceeding four hours.

D. Short-Term Parking: Parking having a duration not exceeding four hours.

E. Carpool Parking Space: Parking for a group of three or more persons sharing a vehicle four or more days a week on average.

F. Through Traffic: Traffic in downtown which has both its origin and destination outside downtown.

G. Change of Use: A change from one group of uses to another as defined by Section 33.44.020 of Title 33 of the City Code.

H. Major Rehabilitation: A building rehabilitation where the cost of renovation or modification exceeds 50 percent of the building's assessed value prior to rehabilitation.

I. Older and Historic Buildings: An office building built prior to 1964 in which the number of parking spaces is less than the number allowed by the ratios in Section 2-4.

Section 1-4

Definition of Downtown

A. For purposes of this policy, Downtown is defined as the area enclosed by the west bank of the Willamette River, the Broadway Bridge and Broadway ramp, Hoyt Street, Stadium Freeway, and Marquam Bridge, as indicated on the accompanying map, Exhibit I.

B. For the purpose of this Policy, Downtown is divided into eleven parking sectors by boundaries on the centerlines of certain streets, as indicated on the accompanying map, Exhibit I.

Section 2-1

Inventory

A. At the end of any quarter of any year the total inventory of parking spaces existing or approved shall not exceed the following except as provided in B below:

In Sector L (the South Waterfront Area) 1,185 spaces

In the remainder of Downtown 42,729

B. New parking uses within the inventory may be approved through the procedures outlined in Section 2-7. Additional spaces beyond these limits may only be approved in conjunction with the identification of offsetting spaces for removal as described in Section 2-7(H.2) of this Policy or following implementation of offsetting air quality programs approved by the state Department of Environmental Quality.

C. Parking spaces for residential and hotel uses approved after May 29, 1973 are exempt from this total inventory.

Section 2-2

Additions to the Inventory in Association with Approved Offsets

A. As approved December 14, 1990 by the Environmental Quality Commission, the CBD parking lid specified in the Carbon Monoxide State Implementation Plan will be revised to reflect the actual number of parking spaces, based on a more accurate count taken in 1986. The new base inventory is set at 43,914 existing and approved spaces.

B. Under an Offset Rule proposed and accepted by the state Department of Environmental Quality (OAR 340-20-400 through 440) and approved by the federal Environmental Protection Agency, the revised parking ceiling of 43,914 spaces could be increased by up to 1,370 spaces, providing emission offset measures are implemented and an approved contingency plan is in place.

C. If further increases are needed, over the allowed 1,370, the City of Portland shall make a request to the Department of Environmental Quality for an appropriate rule change and State Implementation Plan revision at least six months prior to the needed increase.

D. The Parking Manager will submit to the Department of Environmental Quality periodic requests for additional parking spaces based on measurable and enforceable offsets up to a maximum of 1,370 additional spaces. The following are examples of air quality offset measures, which may be considered to add parking spaces downtown, under current guidelines. To be considered as an offset, any program must include monitoring and enforcement and be backed by the City contingency plan.

1. Alternative Work Hours Program: Any system for shifting the work day of a permanent employee so that the work day consistently ends outside the designated afternoon peak traffic period. Programs may include both compressed work weeks and five day work weeks set off peak.

2. Carpool Program: A program which sets aside, provides matching service for, sells permits for and monitors use of parking spaces for exclusive use of cars with three or more employees traveling together from outside the Central City boundaries.

3. Transit Subsidy: An employer-paid subsidy of at least $15 per month toward the cost of employee travel to the work site by bus.

E. New parking inventory allowed through air quality offsets approved by the Department of Environmental Quality shall be added to the downtown parking inventory reserve and assigned to new development using the conditional use permit process for parking allocation. Changes in the inventory reserve will be reported to Council every six months in January and July.

Section 2-3

Peripheral Areas Outside Downtown

The City recognizes that sections of this Policy could result in undesirable effects on land use in areas peripheral to downtown. If such undesirable effects should occur, the City intends to seek means to reduce the pressures for new off-street parking in areas immediately adjacent to Downtown.

Section 2-4

Maximum Parking Space Ratios

A. New parking which is proposed as a part of a new development or redevelopment may be approved provided that the number of parking spaces does not exceed the number indicated by the following schedules of maximum parking space ratios.

B. The listed ratios are maximums. New non-residential buildings may be constructed without parking spaces, or with fewer spaces than the maximum ratios would produce. Exceptions to the maximums will be processed as adjustments and must meet both the General Adjustment Standards and the Z Zone Adjustment Approval Standards in Chapter 33.98. Exceptions will be reviewed using a Type III procedure assigned to the Hearings Officer.

C. Minimum residential parking requirements are: not less than one space per condominium unit, 3/4 of a space per rental unit, and one space per eight elderly housing units. Exceptions to the minimums will be processed as adjustments and must meet both the General Adjustment Standards and the Z Zone Adjustment Approval Standards in Chapter 33.98. Exceptions will be reviewed using a Type III procedure assigned to the Hearings Officer.

SCHEDULE (1) Maximum Parking Space Ratios for Office Developments by Parking Sector

Parking Sector	Spaces per 1,000 Square Feet of Gross Floor Area
A,D,H,K,L	1.0
B,J	0.9
C,G	0.8
E, F	0.7

SCHEDULE (2) Maximum Parking Space Ratios for Types of Development Other than Offices

Development Type	Spaces per 1,000 Square Feet or per Habitable Unit
Residential	1.2 per Dwelling Unit
Hotel	1.0 per Rentable Unit
Retail	1.0 per 1,000 square feet
Medical	1.5 per 1,000 square feet
Educational	1.0 per 1,000 square feet
Manufacturing/wholesale	0.7 per 1,000 square feet
Cultural/Entertainment *	0.25 per 1,000 square feet

* The listed ratio is for employee parking. Parking for daytime use by patrons shall be determined on a case by case basis and be based on an analysis of demand and availability of parking in the area. Parking for evening use by patrons will only be approved if existing daytime use parking in the area is unavailable or insufficient for the need. Daytime use of spaces approved for evening patron use will be reviewed and considered during the conditional use process.

Section 2-5

Parking Use

A. Approved new office parking shall include sufficient short-term spaces to, at a minimum, meet the development's needs. As a goal, 20 percent of the parking spaces built for office use should be for short-term parking.

B. Developments should seek to maximize potential tenant carpooling. Fifteen (15) percent of the parking allocated for office use shall be for carpool use provided it can be marketed. The parking manager and the regional ride share agency will assist in establishing internal rideshare programs.

C. Short-term parking shall be marketed, priced, or operated in a manner which encourages its use for short-term parking and discourages its use for long-term parking.

D. Existing parking may be approved for use by older and historic buildings (as defined in Section 1-3) provided:

1. The parking spaces are counted in the inventory of downtown parking as of January 1992; and

2. The parking spaces are not exempt as defined in Section 2-1 (C.); and

3. The parking is committed/dedicated to Older and Historic Buildings or to individual users of Older and Historic Buildings through evidence submitted as part of the application; and

4. The parking is located near or accessible to Older and Historic Buildings; and

5. Applicant/Owner and buildings utilizing parking for Older and Historic Buildings approved under this section commit to participation with the City in the distribution of information regarding alternative transportation and demand management programs.

Section 2-6

Surface Parking Lots

A. Surface Parking Lots shall be discouraged in order to

1. prevent unsightly surface parking lots that interrupt retail and office continuity, reduce downtown's efficiency by causing dispersion of activities and which diminish the quality that constitutes much of downtown's appeal.

2. discourage the removal of buildings and subsequent conversion of sites into surface parking

B. The only surface lots permitted are:

1. lots of 20 or fewer spaces which

a. serve a residential use; or

b. serve a permitted use in the EX zone; or

c. serve a permitted use in the CX zone and

(1) the parking is an integral part of the business and for customers only; and

(2) is on the same property; and

(3) is only for its use; and

(4) does not violate the adopted downtown goals for strengthening retail activity.

2. Surface lots which are part of an urban renewal project, and where the City has control of the development and can ensure satisfactory design and compatibility with the objectives of the Downtown Parking Policy, particularly as it affects the limit on downtown parking.

3. Interim lots as part of phased developments where the phasing pattern temporarily creates inadequate parking for the project.

4. Surface lots which are part of parking strategies developed by the City for particular areas or in response to temporary disruption caused by major construction projects.

5. Surface lots which provide parking spaces dedicated for use by Older and Historic Buildings or for use by individual users of Older and Historic Buildings, subject to the criteria and reporting provisions in Section 2-5(D).

C. Approvals of new surface lots and the renewal of surface lots operating with Conditional Use or Revocable Permits shall be subject to the following:

1. The approval of lots meeting the criteria of Section 2-6 (B.1) shall expire at the time of a change in use.

2. The approval for all other surface lots shall be for a period of three years only, beginning with the date of operation.

3. The approval of new surface lots shall expire if construction is not begun within six months of the date of approval.

4. An application for a surface lot renewal will be processed as though it were a new conditional use application

D. All surface lots approved under this policy shall meet the landscaping and buffering requirements of Chapter 33.56 of the City Code.

Section 2-7

Approval of New Off Street Parking

A. All new off-street parking in the Downtown area defined by Section 1-4 and shown on Exhibit 1 of this document shall require Conditional Use approval and be subject to the full provisions of Chapter 33.106 of the City Code. Applications shall be reviewed through a Type III procedure assigned to the Hearings Officer.

B. New Off Street Parking will only be approved as part of new developments, redevelopments, or major rehabilitations except as allowed by Section 2-6 or Section 2-7(B).

C. The City may approve new structured short term parking as long as the City finds that it is consistent with the City's short term parking strategy.

D. In determining the number of allowable parking spaces for new developments, credit will not be assigned automatically for on-street or off-street parking that is removed as part of the new development project. All off-street or curb parking removed as a result of new development shall be assigned to the parking reserve for possible reassignment anywhere in downtown.

E. All parking requests which are approved by the City shall expire if construction is not started within two years. The allotted parking will be reassigned to the parking reserve.

F. A multi phase project may seek approval for all its parking at the initial review hearing. Such approval will require the approval of a building phase construction schedule by the Hearings

Officer. If any phase is not begun within two years of its approved construction date, the approval of the parking for that and subsequent phases will expire.

G. Multi-phase projects and major mixed use projects shall require parking management plans which ensure that the approval and utilization of parking is in accordance with other provisions of the Policy for each phase and use.

H. Any increase in the capacity of a parking facility through re-striping or some other change in operation shall require conditional use approval.

I. In order to approve new parking the City must either:

1. Find that the approval of the parking will not put the number of existing and approved parking spaces above the maximum inventory; or,

2. Identify, as part of the Conditional Use process, spaces to be removed when the new spaces open so that the number of existing and approved spaces does not exceed the maximum inventory. The removal of the identified spaces is not required if, during the period of construction, other changes in the inventory occur so that the opening of the new spaces does not exceed the maximum inventory. This subsection should not affect the renewal of a surface lot permit which should be decided on its own merits as if it were a new application as specified in Section 2-6 (C) of this Policy.

J. Projects approved under this Policy must submit reports to the City every six months on the short and long term and carpool utilization of spaces, including the number of vehicles entering and exiting by hour. The reports may be based on samples from any normal operating day.

Section 2-8

Curb Parking

A. Curb parking is considered to be a valuable resource for high-turnover, short term parking service to shoppers and other visitors, and for convenient parking in off-peak periods. Its use is to be encouraged in locations where it does not cause traffic congestion and it does not interfere with the safe and efficient movement of traffic, transit, pedestrians, and bicycles on designated traffic access, non-auto, and bicycle streets.

B. Curb parking spaces on designated traffic access streets may be removed, as required, to improve traffic flow, to reduce circulation of traffic in search of parking, and to remove spaces that are replaced by parking in new off-street parking structures.

C. Curb parking spaces may also be removed for other reasons, including improvement of the environment within "reduced traffic areas" designated in the Downtown Plan: specifically to improve pedestrian circulation by reducing pedestrian-vehicle conflicts, to reduce congestion, to reduce noise, to improve bicycle circulation, and to improve the visual image and quality of special districts such as the Retail Core, Skidmore/old town, and the Waterfront.

Section 2-9

Rates for Curb Parking and City Garages

A. Rates for City garages shall be reviewed periodically, and shall be established to encourage short-term parking, and to discourage all day parking.

B. Rates for curb parking shall be reviewed annually, and shall be established to closely equal the hourly short-term rates of the City's garages. These rates are intended to encourage use of off-street parking facilities, to reduce traffic circulation, and to increase curb parking turnover.

Section 2-10

South Waterfront Redevelopment Area

A. At the end of any quarter of any year, the total inventory of parking spaces available for use in Parking Sector L shall be established at 1,185. The parking space inventory for Sector L is reserved exclusively for existing and planned development within the sector and may not be reallocated to other parking sectors on a temporary or permanent basis.

B. Parking spaces for residential uses are exempt from the inventory for Parking Sector L.

C. In order to promote initial development within the South Waterfront Redevelopment Area, interim parking space ratios have been established that recognize the unique transportation needs of the area. These ratios may be modified over time on the basis of increased development density and transit service/ridership. The long-term goals shall be 1 space per 1,000 sq. ft. of office development.

Parking spaces for development in Parking Sector L shall be approved subject to other applicable sections of this Policy, provided that the number of parking spaces does not exceed the number indicated by the interim maximum parking space ratios shown in Schedule 3.

Upon application for a Conditional Use Permit for a new parking facility in Sector L, the Portland Development Commission and/or developer shall submit a parking plan specifying measures to be taken to discourage excessive long-term parking. The ratios shown in Schedule 3 are based on a 50% transit rider assumption. Projected transit ridership at the time of application for a Conditional Use Permit shall be grounds for a modification in ratios applied to new development.

D. Periodic review of the inventory of parking spaces available for use and parking space ratios for Sector L shall be undertaken simultaneous to review of the parking space ratios and inventories for downtown as a whole. Based on further study and refinement of the redevelopment program, parking spaces for additional development activities in Sector L may be allowed in addition to the established inventory. Modifications to the parking inventory and ratios for Sector L shall be undertaken consistent with the intent and applicable sections of this Policy and be approved by the Planning Commission and City Council. The number of parking spaces per square foot of development may be reduced on the basis of increased transit service to and through the redevelopment area.

SCHEDULE (3)
Interim Maximum Parking Space Ratios by Land Use for the South Downtown Waterfront Redevelopment Area Based on Projected 1987 Transit Service/Ridership in Parking Sector L

Development Sub-Area	Land Use	Parking Space Ratio
Parcel A.	Marina	0.50 per boat slip
	Retail	1.50 per 1000 sq ft
	Restaurant	5.00 per 1000 sq ft
	Office	1.45 per 1000 sq ft
Parcel B.	Housing	1.00 per housing unit
Waterfront Park Extension	Park and Recreation	To be determined by Conditional Use Permit
Office/Business Park	Office	1.45 per 1000 sq ft as follows:
	Business	2.00 per 1000 sq ft for first 150,000 sq ft
		1.00 per 1000 sq ft for amount over 150,000 sq ft

E. Tri-Met and the City shall take steps necessary to promote additional transit development to and through the redevelopment area, including provision of transit shuttle service connecting, the redevelopment area with the Portland Transit Mall and other downtown districts.

F. The Portland Development Commission shall coordinate all parking activities with the City's Parking Management Program and shall prepare parking controls consistent with this policy for incorporation as a condition of development agreements. Parking controls consistent with this Policy will be implemented for City owned parking facilities constructed as part of the redevelopment program. Development agreements shall require shared use of parking between uses within development sub-parcels and, to the extent possible, within the Parking Sector as a whole.

G. In order to accomplish the Council-adopted redevelopment program for the South Downtown Waterfront Redevelopment Area in a manner conducive to private investment, it is appropriate for surface parking lots to be developed as interim parking facilities. Surface parking lots, otherwise consistent with this Policy and applicable provisions of Title 33 of the City Code, shall be allowed to facilitate development in the early phases of the redevelopment program. The City shall amend Title 33.56.100, Open Lot Parking, to facilitate such interim facilities. The Development Commission shall prepare design guidelines and parking controls consistent with this policy for incorporation as a condition of development agreements. As development density increases, the Development Commission shall take all actions necessary to remove such interim surface parking facilities and require construction of efficient parking structures to serve the shared parking needs of land uses within the redevelopment area.